

# Gabriele Marini

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Summary	Third year PhD Candidate at the University of Melbourne, sponsored by CSIRO-Data61. My research focuses on indoor localisation, sensors and data modeling. I am very passionate about computer science in general and especially ubiquitous computing and sensors. I often dabble in 3D graphics and game development (Unity mostly), web development (full stack) and data science (Python + R).
Education	<p><b>PhD in Computing and Information Systems</b> May 2018 - Ongoing <i>University of Melbourne.</i> Melbourne, Australia Third year PhD Candidate. Expected graduation: June 2022</p> <p><b>Top-Up Scholarship PhD Candidate</b> May 2018 - Nov 2021 <i>CSIRO - Data61.</i> Melbourne, Australia Supervised by Raja Jurdak and Brano Kusy.</p> <p><b>MSc in Computer Science (Laurea Magistrale)</b> Jun 2017 <i>Università degli Studi di Pisa.</i> Pisa, Italy Final grade: 110/110 <i>cum laude</i> Master's Thesis: <i>Injection of an efficient scripting language in a large C++ framework for fully immersive Virtual Environments</i></p> <p><b>BSc in Computer Science</b> Jul 2014 <i>Università degli Studi di Cagliari (Laurea Triennale).</i> Cagliari, Italy Final grade: 110/110 <i>cum laude</i> Bachelor's Thesis: <i>An Interactive Shoes Showcase</i></p>
Experience	<p><b>Data Science Research Intern</b> Jun 2021 - Sep 2021 <i>Nokia Bell Labs.</i> (Remote) Cambridge, UK Set up an RFID based indoor localization system and proxemics tracker. Deployment did not go through due to COVID limitations. The project got repurposed to a Data Science related work. We extracted and analysed a corpus of Slack messages through NLP tools, Social Network Analysis with some Network Metrics. We then built a model to detect leadership in teams through these metrics without prior knowledge about the group's hierarchy.</p> <p><b>Tutor/Demonstrator</b> Jul 2018 - Ongoing <i>University of Melbourne.</i> Melbourne, Australia I have been teaching at least one subject each semester during my PhD. Teaching and tutoring also included material creation, rubrics writing as well as marking of assignments, projects and final exams: - INFO20005 (2021, 2022): UI Development (Front-End Development with HTML, CSS and JS) - INFO90003 (2020): Designing Novel Interaction (Tangible interactions with Arduino and Raspberry Pi) - COMP30019 (2018, 2019 and 2020): Computer Graphics and Interaction (With Unity 3D, C# and HLSL) - SWEN20003 (2019 taught at the International House): Object Oriented Software Development (In Java)</p> <p><b>Trainees Program Chair</b> Sep 2020 - Jun 2021 <i>NHMRC Centre of Research Excellence (CRE) in Digital Technology to Transform Chronic Disease Outcomes.</i> Melbourne, Australia I have lead the group of PhD students trainees and was in charge of setting up and conducting the monthly meetings and reporting back to the Chief Investigators. I also took part in the organization</p>

of workshops, seminars and retreats for the group.

### PhD Candidate

May 2018 - Ongoing

*University of Melbourne*. Melbourne, Australia

- **Treasurer** of the CIS Research Students Association (**CIS-GReS**)
- *Equipment manager* for the IDL (now HCI) lab
- *Floor Warden* for the CIS department

### Consultant

Oct 2017 - Feb 2018

*European Central Bank (ECB)*. Frankfurt, Germany

I worked on the long-term IReF project implementing an online survey to be sent out to all the banks in Europe. Besides that, I offered technical support for IT-related matters (Python scripts, WordPress websites management, Javascript, VBA, SQL)

### Research Assistant

Jun 2017 - Oct 2017

*TeCIP Institute, Scuola Superiore Sant'Anna*. Pisa, Italy

I worked mostly on robot vision and Hand-Eye camera robot calibration. I also developed part of the HMI (C#, MySQL) with a 3D Viewer of the robotic arm with inverse kinematics

### Intern

Oct 2016 - Jun 2017

*VRMedia - Scuola Superiore Sant'Anna*. Pisa, Italy

I developed and wrote my master thesis under the supervision of Prof. Franco Tecchia.

## Technical skills

**Programming Languages:** C++, C#, C, PHP, Java, Python

**Data Analysis/Visualisation:** R, Python, Javascript (and NodeJS), SQL, MySQL, MatLab

**Web Development:** HTML, CSS, Javascript (and NodeJS), PHP

**Markup Languages:** Latex, Markdown, YAML, HTML, XML, JSON

**Tools/Framework:** Many IDEs and notebooks such as PyCharm, Eclipse, Jupyter, RStudio, Unity3D, Photoshop, Blender, WordPress

## Talks

- *Brainstorming Workshop* NHMRC CRE 2021
- *Masterclass in Photography for HCI Research* University of Melbourne, April 2021
- *Towards Context-Free Semantic Localization* UbiComp, London, UK, Sep 2019
- *Towards Indoor Localization Analytics for Modelling Flow of Movements* Doctoral Colloquium, London, UK, Sep 2019
- *Flow-Optimisation based on indoor localisation* Data61/CSIRO, Aug 2019
- *Reliable Operating Rooms* Northern Health, Melbourne, Nov 2018
- *Seminar on Indoor Localisation for supporting decision-making* University of Melbourne, Nov 2018
- *PhD Confirmation Seminar - Flow Optimization based on indoor localization* University of Melbourne, Jun 2018

## Projects

**Semantic Indoor Localisation, PhD Research Project**

Supervisor: Prof. Vassilis Kostakos

**Emotion Recognition with Affectiva, Side project at UniMelb**

Developed as a way of interacting with PCs through emotions and facial expressions, we used the Affectiva SDK and C# on Windows or Java on Android.

**Injection of a scripting language into the Unreal Engine, Master thesis**

Supervisor: Prof. Franco Tecchia

**MeshLabJS Texture and .zip support, Final project**

Supervisor: Prof. Paolo Cignoni

**Interactive shoes showcase, Bachelors thesis**

Supervisor: Prof. Riccardo Scateni

Languages	<ul style="list-style-type: none"> <li>• <b>Italian</b>, Native speaker</li> <li>• <b>English</b>, Fluent, TOEFL (2017): 112 (<b>C2</b>)</li> <li>• <b>Spanish</b>, Intermediate</li> </ul>	
Certificates	<ul style="list-style-type: none"> <li>• <b>MTC-GR</b> - Melbourne Teaching Certificate for Graduate Research</li> <li>• <b>WWCC</b> - Working With Children Certificate</li> <li>• <i>UniMelb Tutor Development Program</i></li> <li>• <b>RIOT</b> - Research Integrity Online Training</li> <li>• <b>TOEFL</b> 112/120 (Reading: 28, Listening: 28, Speaking: 26, Writing: 30)</li> <li>• <b>PADI</b> - Open Water Diving License</li> </ul>	<p>Nov 2019</p> <p>Feb 2019</p> <p>Jun 2018</p> <p>Jun 2018</p> <p>Sep 2017</p>
Awards	<ul style="list-style-type: none"> <li>• <b>PhD Scholarship</b> awarded by <i>CSIRO - Data61</i></li> <li>• <b>Top graduates award</b> awarded by <i>Università di Pisa</i></li> <li>• <b>Top graduates award</b> awarded by <i>ERSU Cagliari</i></li> </ul>	
Relevant courses	<ul style="list-style-type: none"> <li>• Distinguished Project Award: INFO90003 2019 - Designing Novel Interaction</li> <li>• Research Methods COMP90044</li> <li>• Computer Graphics</li> <li>• Linear Algebra</li> <li>• Introduction to Robotics • Virtual Environments</li> <li>• Programming Languages and Compilers</li> <li>• Advanced Databases</li> <li>• Advanced Programming</li> <li>• Advanced Algorithms</li> </ul>	
Additional Activities	<ul style="list-style-type: none"> <li>• Attended CHI 2021 remotely</li> <li>• SV (Student Volunteer) at UbiComp 2020 Online</li> <li>• Doctoral Colloquium and Workshop presenter at UbiComp 2019 in London, UK</li> <li>• SV (Student Volunteer) at UbiComp 2019 in London, UK</li> <li>• Open Day Volunteer at the University of Melbourne, Australia</li> <li>• SV (Student Volunteer) and attendee at OzCHI 2018 in Melbourne, Australia</li> <li>• Attended UbiComp 2018 in Singapore</li> </ul>	
Extras	<ul style="list-style-type: none"> <li>• Photographer (landscape, astro-photography, aerial and events such as graduations or weddings)</li> <li>• Traveller and backpacker</li> <li>• Long distance and open water swimmer</li> </ul>	
Publications	<ol style="list-style-type: none"> <li>1. <u>G. Marini</u>, B. Tag, J. Goncalves, E. Velloso, R. Jurdak, V. Kostakos. Measuring Mobility and Room Occupancy in Clinical Settings: System Development and Implementation, DOI: 10.2196/19874</li> <li>2. <u>G. Marini</u>. Towards indoor localisation analytics for modelling flows of movements. 2019. International Joint Conference on Pervasive and Ubiquitous Computing Adjunct (UbiComp '19 Adjunct) 377–382. doi:10.1145/3341162.3349306</li> <li>3. <u>G. Marini</u>, J. Gonçalves, E. Velloso, R. Jurdak, and V. Kostakos. 2019. Towards context-free semantic localisation. International Joint Conference on Pervasive and Ubiquitous Computing Adjunct (UbiComp '19 Adjunct), 584–591. doi: 10.1145/3341162.3349329.</li> <li>4. Northern Health gets its teeth into patient flow. 2019. VicHealth [URL]</li> <li>5. W. Jiang, <u>G. Marini</u>, N. Berkel, Z. Sarsenbayeva, Z. Tan, C. Luo, X. He, T. Dingler, J. Goncalves, Y. Kawahara, V. Kostakos. 2019. Probing Sucrose Contents in Everyday Drinks Using Miniaturized Near-Infrared Spectroscopy Scanners. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT), 3(4), 136:1–136:25. doi: 10.1145/3369834. [ERA: A*].</li> <li>6. W. Jiang, <u>G. Marini</u>, N. Berkel, Z. Sarsenbayeva, C. Luo, X. He, T. Dingler, Y. Kawahara, V. Kostakos. 2018. A Mobile Scanner for Probing Liquid Samples in Everyday Settings. 19 International Joint</li> </ol>	

Conference on Pervasive and Ubiquitous Computing Adjunct (UbiComp Adjunct). ACM, 1172–1177. doi: 10.1145/3267305.3274764.

7. Z. Sarsenbayeva, G. Marini, N. van Berkel, C. Luo, W. Jiang, K. Yang, G. Wadley, T. Dinger, V. Kostakos, J. Goncalves, "Does Smartphone Use Drive our Emotions or vice versa? A Causal Analysis", in Proceedings of ACM SIGCHI Conference on Human Factors in Computing Systems (CHI'20), 2020, to appear.
8. D. Hettiachchi, Z. Sarsenbayeva, F. Allison, N. van Berkel, T. Dinger, G. Marini, V. Kostakos, J. Goncalves, "'Hi! I am the Crowd Tasker' – Crowdsourcing through Digital Voice Assistants", in Proceedings of ACM SIGCHI Conference on Human Factors in Computing Systems (CHI'20), 2020, to appear.